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PERCEPT AND OBJECT IN COMMON SENSE AND IN PHILOSOPHY

I

THE COMMON SENSE DOCTRINE AND ITS SIGNIFICANCE

WE have had, within the past few years, much discussion of perception and its object. The problem has betrayed itself as a parting of the ways—as significant for what the solution accorded it may result in—and not merely as in itself furnishing material for the exercise of intellectual curiosity. The realists, recently grown very bold, have urged their doctrine, or the somewhat differing varieties of their doctrine, with earnestness and insistence. The idealists, not wholly united, as is quite natural, have, nevertheless, made something like common cause, and have defended themselves with energy. The pragmatists, though they may call themselves realists, do not seem to have been precisely in either camp. Where so many clever men, of different standpoints, consent to give their attention to the one problem, and where they work, not in isolation, but stimulated by dispute, and conscious of the points of agreement or of difference that characterize them, it would be strange if the various facets of the problem under discussion were not presented to us with a good deal of clearness. And if there is a pronounced flaw in any facet, it seems unlikely that we should be allowed to be inattentive to it.

So many have written, and many have written so well, that the difficulty of presenting the problem in any distinctly new aspect must make itself acutely felt. Has not every facet already been inspected? Has not the importance of each been insisted upon? Then why waste effort in trying to bring before the reading public a new one?

Fortunately, such is not my task. I am concerned rather to do something which has, I think, attracted less careful attention than

the exhibition of the significance of individual aspects of the problem. I am concerned to inquire whether, if we take into consideration *all* the aspects, trying to do justice to each, and to avoid exaggerating the importance of each, our problem may not become less an apple of discord, and more a problem whose reasonable solution need not leave any of us wholly discontented and humiliated by the consciousness of unredeemed error.

My way of approach to this task lays itself open to the charge of bringing philosophy down into the market-place, where we do not usually look for philosophy. What I have to say in my justification I shall say a little later. Here I shall begin at once with what I shall call the common sense doctrine of percept and object. I wish to call attention to its many-sidedness, and to point out that the elements in it do not appear, on the surface, at least, to be wholly in accord with one another. This lack of harmony between the articles of his creed does not seem to distress the plain man. It does not embarrass him in his dealings with things. It may cause acute distress to the philosopher who agrees with him heartily upon the one point, but can not see how he can conscientiously give assent, at the same time, to another.

I hope I may be permitted to include under the common sense doctrine opinions formulated, half-formulated, and ready to be formulated. This is rather loose, to be sure, but common sense is, in a sense, a loose and vague term. If a man can act, but remains absolutely blind to what he is doing when he acts, we can not say that he has any doctrine at all. We can hardly affirm that men generally are in this state. Most of them appear to be dimly aware, at least, of what they are doing when they are dealing with the things about them. Some, even of the unlearned, have rather definite opinions—they have arrived at something like a formulation, even though it be not couched in very general terms. And a man's mind may hold in solution opinions which will not take the form of a precipitate unless some definite question be asked and he be pressed for an answer.

But, if the asking of the question at once results in the precipitate; if the man under interrogation claims something as his opinion; if he insists that he has always known the truth in question—does it seem just that we should dwell much upon the fact that he has not before been led to formulate his belief in a general way? The fact that he does not speak as a philosopher, and that he may be unaware of the mutual consistency or inconsistency of his statements, as well as of the consequences which may be deduced from his admissions, speaks rather for the spontaneity and impartiality with which he attempts to describe what seems given in his experience.

I do not mean to speak dogmatically touching the articles of the

common sense doctrine. What I put forward is offered for criticism. It is not the expression of a fixed conviction which I am unwilling to modify in the face of evidence. Such as it is, let us look at it critically.

I. Does not the plain man hold that percept and object may vary independently; that the former may cease to exist while the latter continues to exist; that the two may have different times of being; that to each must be assigned its own place in the system of things; that the percept may be relatively simple while the object is very complex?

If he holds all this, does he, or may he, also hold that when percepts are given in experience, objects are given in experience? Does not his doctrine exclude all talk of the numerical identity of percept and object?

That the plain man does take the positions indicated above appears undeniable, when we remain in the region of the concrete, and apply ourselves to simple illustrations. Thus,

1. Does he not accept the commonplace fact that walking around a table and looking at it will result in a whole series of different percepts, while the table perceived remains unchanged?

2. Is he not aware that the percept may cease to be—that he may close his eyes—while the object, the table, continues to exist?

3. Does he not know that an occurrence may be perceived after it has ceased to exist? that he may hear a sound long after the blow has been struck? that he may see a star which no longer shines?

4. Does not the plain man, if interrogated, refer the percept to "the mind," and the mind to the body? Where does he put the table perceived?

5. Does any man who exercises ordinary common sense ever suppose that he perceives the whole of a table at once, inside and outside, back and front? or does he recognize that the table is something far richer and more complex than any percept of it?

It seems, then, that common sense accepts percept and object as two, making no effort to get on without either; and it appears as clear that it treats these two in distinctly different ways. Nor does it seem indicated that it regards these two as given in experience "side by side." Men do not normally see double. Does common sense, then, *implicitly* deny that the *object* is immediately given in experience? Or does it *implicitly* deny the *percept?* On the surface, it does not appear willing to do either.

II. May we not say that common sense *tacitly* accepts the fact that we can know things *only as they appear to us?* And is not this a virtual denial that objects perceived are independent things?

What plain man is ignorant of the significance of the senses and

brain in our knowing of things? We find it natural that eyes should reveal colors, ears sounds, and finger-tips something different. Who does not know that, where a given sense is lacking, objects can not be perceived under the guise appropriate to that sense.

And certainly no plain man living ever attempts to know objects as unknown—as "out of the cognitive relation," whatever that may mean. I apologize for the use of the technical expression in discussing anything so little technical as common sense. I mean only to indicate that, whatever the conditions of our knowing may be, objects known appear to be accepted by men generally as none the worse for their being known, and as quite capable of satisfying all the theoretical and practical purposes with which investigations are undertaken.

Does it follow that common sense regards the object given in experience as a something dependent upon our own constitution? Would it be willing to maintain that we can know things only as they appear to us, and that they appear to us as they do because we are what we are? May we contrast with such a knowledge of things the knowing of things independently, and regard the latter as a conceivable, if unattainable, extension of knowledge?

III. He who dwells exclusively upon what has been said so far, might easily be led to maintain that common sense accepts, tacitly, at least, that percepts are not the same as their objects, but are numerically distinct; that we know objects only through percepts; that the latter are dependent upon our constitution, and must take their color from us; and that, consequently, we may not say that objects independent of us are directly given in experience. This seems to make common sense subjectivistic.

But, surely, he who feels impelled to maintain that this is the common sense doctrine must recognize the necessity of further maintaining that it is accepted only tacitly and unconsciously by the plain man to whom he attributes it. For, stated boldly and explicitly, it appears to arouse opposition and irritation. The plain man is driven to protest, somewhat as did Thomas Reid. And even if no active protest is elicited from him, in the cases where he is let alone and is not rendered anxious about the possible consequences of his admissions and assumptions, do we not find him making other assumptions quite different in their suggestions from those indicated above?

Thus, does he not maintain that, in perceiving, he is always experiencing *objects,* not copies, not images, not representatives of any sort, but the objects themselves? Are not these the objects that may remain unchanged, although the percepts vary? that may continue to exist when the percepts go out of being? Is not this an assertion of the independence of the object given in experience?

The plain man is, to be sure, quite ready to admit that, under given circumstances, he may enjoy a poor view of the object. But what is his remedy for this? Is it not to obtain a better view? And it is a view *of the object* that he seems to want. The fact that it is a *view* of the object never seems to trouble him, or to rob him of the object itself. Suppose we tell him that, in perceiving, he can never, under any conceivable circumstances, get anything but "views," and that such views are never the object, and may all be quite unlike it. Will he be inclined to cast about for some other method of getting at the object, or will he simply disregard our insinuations and go on doing what he did before?

It seems too much to expect him to admit that he has never known objects. He has always known that he has experienced them under a variety of aspects, but this does not appear to have prevented him from finding out a great deal about them. He has distinguished between delusive appearances of objects and, as he expresses it, objects as they really are. He has seen the man of science deal with things as he does, but more systematically and thoroughly, and he has not found him embarrassed by the fact that observation results in views of things. Objects have been described as though they were given in experience. No embarrassment has resulted from this treatment of them. They have been described, they *are* described, in a multitude of scientific books, and no mention has been made of the fact that the books in question are dealing only with "views." They seem to be describing objects, and it seems to be assumed that the objects have been *observed, experienced* by some one.

May we expect the plain man to recognize the situation as a "predicament"? What sort of a predicament is it that occasions no one any inconvenience, and never prevents any one from doing anything that he wants to do? And, to recur to a point touched upon a little above, can we expect the plain man to feel that he is put in a "predicament" by the fact that he can not experience things except as he experiences them, or describe them except as they are revealed to him? Is he compelled to undertake this peculiar task, if he would describe things *as they are?* Is it properly a task to be performed either by the plain man or the man of science? Neither appears to have the slightest desire to undertake it, nor does either appear to consider his account of objects incomplete merely because he has not supplemented his account of objects as known by an account of them as he does not and can not know them.

The plain man, then, whatever else he believes, seems to believe that, not percepts merely, but *objects,* are given in his experience—the objects which he distinguishes from percepts, which may remain unchanged though percepts vary, which may continue to exist when

percepts of them drop out of being. Shall we put this down as a part of the common sense doctrine?

IV. Again, admitting all that has been said about the plain man's consciousness of the part played by the sense-organs and the nervous system in the perception of objects, could we induce him to acquiesce in the statement that a man, in knowing an object, *creates* it wholly or partially? Would he even be willing to admit that the object is *changed* in becoming known?

Thus, we all know that the experience which a man has of the contents of a given room must be different from the experience of the same objects enjoyed by a dog, and very different from the experience of an insect. Is it proper to say that a man, in knowing a shelf of books, makes it over, *creates* the object of his percept? Would the average man not read in philosophy be ignorant of the fact that things may seem different to different creatures? Would he be impelled by his knowledge to assert that each creature makes its own "things" or objects, when he is confronted by something as concrete and definite as a shelf of books?

A shelf of books can undoubtedly be made. It can easily be changed in a variety of ways. But can a man be said to make it, when he does nothing but open his eyes upon it? Can he be said to change it, when he allows his glance to pass over it, first from left to right, then from right to left? Common sense recognizes, does it not, that desire and purpose have much to do with the nature and order of our percepts? Is any man ignorant that the experiences we have are often determined by what we desire to look for and what we resolve to do? But does the fact that we vary the nature and order of our percepts necessarily mean that we are changing the objects we perceive? I see six dots on a bit of paper before me. I can think of them as $2 + 2 + 2$, or I can treat them as $3 + 3$. When I pass from the one operation to the other, does anything happen to the dots? Are there less or more of them? are their actual relations to each other changed? One may read a book with the deliberate intent of correcting typographical errors, or one may read it with a view to comprehending and criticizing the doctrine it embodies. Does common sense hold that the typographical errors made manifest in the one reading become nonexistent in the second? Or does it hold that they all remain unaltered unless they are changed in some quite different way?

Does this not indicate that common sense recognizes that the object is *independent* of the percept, and is revealed in experience as thus independent? that the nature of the object and the changes which take place in it are open to observation and need not be con-

founded with the nature of the percept at any given time, or with merely perceptual changes?

Let me summarize very briefly:

1. Does not common sense deny the numerical identity of percept and object, and recognize that they may vary independently?

2. Does it not, in tacitly accepting the significance for perception of brain and sense organs, implicitly hold that we can know things only as they seem to us?

3. Does it not repudiate the doctrine that we are shut up to mental representatives of things, and hold with a good deal of tenacity to the opinion that the "things themselves" are immediately given in perception?

4. Does it not insist that we can gain by observation the distinction between changes in our percepts and changes in their objects? Is this not a recognition of the independence of objects as given in experience?

Suppose that all these questions are answered in the affirmative. I should like to ask: (1) Are the answers unequivocal? (2) Are they mutually consistent? (3) Do they seem to be justified by fact, or is common sense plainly in error?

I have no disposition to treat the plain man as an oracle. But he may be regarded as material to be turned to account by the critical. In some fields his opinion is quite valueless; in others it is not. The distinction between percept and object is drawn first in our dealings with the familiar things of our every-day experience. We have not had to wait, before making it, for information which was brought us only with the progress of science. In the days of Thales, and long before them, men were compelled to deal with objects. What would have happened to them if they had been unable, in practise, to distinguish between percept and object, and to know when a given change in their experience indicated a change in this or that object, and when it did not?

It may be objected that the plain man has a right to *use* common distinctions which he finds in experience, but that he should eschew formulation. What right has he to a doctrine?

I answer: It is far from evident that he does his work in complete blindness. I am myself inclined to regard him as a witness by no means to be despised. Our ultimate appeal should be to common experience, and not to common sense, which, it must be admitted, implies something like a formulation of what may be revealed in common experience. But the disputes of philosophers make it evident that experience is an elusive thing. In helping us to a critical view of it, even this first vintage, this rough formulation, furnished by the opinions of plain men, may not be without its uses.

We can not assume men to be wholly blind to the distinctions that they are compelled to draw every day, and some of which they can only draw correctly after giving much thought and pains to the matter. It remains for the philosopher to sift their statements, to weigh the justice of each, and to look into this question of their mutual consistency. I shall turn to the philosopher in the next paper.

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STUDIES IN THE STRUCTURE OF SYSTEMS

4. THE GENERATING PROBLEM[1]

THE fight for postulates and against axioms is a fight for freedom in mathematics and science. It is this aspect which thus far has been dominant in our discussion. Unlimited possibilities are therewith opened up; by surrendering the idea of "self-evidence" as a necessary requirement which the starting-point of "deduction" must satisfy, mathematicians have not only deepened their insight into the real relations between the propositions of a system, not only perfected their initial sets, not only increased the rigor of their deductions: the real logical requirements which a deductive system should satisfy to be acceptable have come to light;[2] for only if many accounts are possible can there be selection.

So far as the actual work in mathematics is concerned, nothing further, it would seem, need be added to what has already been said on this point. But for a theoretical account of the deductive system form it is insufficient merely to speak of "postulates" and the "postulate method." This theoretical insufficiency will become apparent whenever the method is applied to fields that have not already been worked over frequently; and it evinces itself in certain puzzling questions which sometimes trouble even the mathematician. That we can, to a degree not yet determined, but apparently unlimited, interchange theorems and postulates, *i. e.*, that the distinction between postulates and theorems is not inherent, not absolute, but relative to the order in a particular system, all this must be maintained. But, if the postulates appear as merely as-

[1] Some of the material of this paper was presented to the American Philosophical Association at its meeting at Yale University, in January, 1910. In the present paper I limit myself to a consideration of the "generating problem" in a *deductive* system.

[2] *Cf.* my paper, "Critique of Cognition and its Principles," this JOURNAL, Vol. VI., page 281.

sumed, are they, therefore, purely *arbitrary?* And if they have no warrant of their own, how can a deduction from them add anything to the validity of a proposition? What is the real function of these postulates?

Some at least of these questions demand an answer in a study of the structure of systems; we shall revert to them in the examination of the nature of *proof* in a deductive system. The difficulty for which the present paper shall try to find a remedy may be stated somewhat as follows. When we establish a set of postulates for "Euclidean plane geometry" we can not use propositions of "algebra." But if postulates are merely "assumed," *why can we not assume anything whatever and develop a system?* Of course, the concept of "truth" enters here, and in so far our question must be answered in "critique of cognition"; but quite apart from the question of "truth," *we require a principle which will determine that certain propositions, true or otherwise, can not by any possibility be amongst the particular set of postulates.* And if we speak of postulates merely as propositions from which the system starts, this question is left open. We need a principle which will demarcate the field in which the "postulates" are assumed.

It is easy to see how so important a question could have been disregarded in the work of mathematicians. They were never trying to establish a set of postulates as such, but a set of postulates of "algebra," or "geometry," etc. *The field was understood as being already well determined,* and the set of postulates determined in reference to it. *But what did determine the field?*

Such questions lead us to conceive the deductive system form in a new way. Thus far we have had in mind propositions in relation to other propositions, forming a system in their relationship. But now we come to conceive of propositions as related, not merely to other propositions, such as the postulates, but to a distinct class of logical entities which may be called *"problems."* We conceive every proposition, and every system of propositions, as definitely related to a "problem" of which it is the *"solution."* And this relation of a proposition to its problem is essential not only for the logical meaning and bearing of the proposition, and not only for the determination and limitation of its "truth," but also for a complete account of the *structure* of a system. It is this structural aspect of the concept of "problem," restricted to *deductive* systems, which shall occupy us for the present.

By "problem" I do not mean a mere "question," not an expression of "ignorance," or "wonder," or "desire to know." All these are expressions for *subject-relations.* They indicate problems which

we meet, or set ourselves. The term "problem" shall here designate a logical entity distinct from the subject-relation into which it may enter to me or to you. I may "set" myself a problem, I may "acknowledge" a problem, and thus enter into subject-relation to it; however vital this relation may be for me or for the problem, what a problem *is* is distinct from *my relation to it.*

This comes out clearly when we treat so-called "impossible" problems. A problem may be "impossible" for me in that I can not find a solution for it. But this psychological impossibility does not constitute a logical impossibility, even if it is extended so as to include *all* (present, past, or future) human beings; *mere extension of a "psychological" relation does not make it "logical."* Numerous problems in mathematics are still (psychologically) "impossible," though in the case of many we can prove that they are "logically" possible. That, on the other hand, a logically "impossible" problem may be psychologically possible the French Academy experiences every year many times when new, and new "solutions" of such problems as the "quadrature of the circle" are presented to it by hopeful aspirants to immortality. That these "solutions" are "logically" incorrect deprives them apparently little of their "psychological" correctness, clearness, evidence, certainty.

But if we do not define "problems" in terms of our "ignorance," how shall we define this logical entity to which a proposition is said to be related? I shall attempt to answer this question in terms of *relation,* and my procedure will be an analysis of what is meant by "problem" in mathematics. It may, however, be well to state that this "analysis" is, at bottom, a "construction": it is the construction of a solution to a particular problem, namely, what a problem is; and this solution is to be submitted, so far as its truth is concerned, to the criteria of critique of cognition.

Problems are "felt" in various degrees of clearness, and as such may control our actions, be it in the practical concerns of every-day life, be it in purely theoretical considerations. The mathematician, working through a particular field of his science, may "feel" that something is wrong, may "perceive" that a certain proof makes tacit assumptions, and this "feeling," this "perceiving" may direct him to search for the assumption, to correct the error. But problems are amenable to logical investigation only when they have been *stated,* however imperfectly. At all events, we shall deal here with problems only in so far as they are stated; and our question is: how are statements which represent problems distinct from those which represent solutions?

If I state the problem: what is the shortest distance between two points in the Euclidean plane? I answer: the straight line. What have I done? The "what" merely fills a blank; but it indicates the *locus of a concept,* namely, straight line. I might have put the problem in the form: "x is the shortest distance between two points," if I had made the agreement that the letter x shall indicate the locus of a concept. The form of a "question" is therefore merely a grammatical device; and our ready understanding of this device covers up an essential feature of the problem-statement, namely, that it is in itself *incomplete:* it does not "propose" anything, it does not "assert" anything; *it requires another statement for its completion.* But it states a relation between concepts by which another concept is determined.

This can be analyzed still further, and another example may be more serviceable: Which is the larger of two chords in a circle? The definite relation, namely, between the sizes of two chords in a circle; x is the one nearer the center. This statement of the problem is very imperfect; what it is meant to bring out is this: the problem states a definite relation, namely, between the sizes of two chords in a circle; but whilst the statement: chord a is larger than chord b would be complete in itself, *i. e.,* a proposition, the addition of the x, which transforms this proposition into a problem, leaves the whole statement incomplete; it becomes a proposition again only after the solution is added; and this is done by introducing a new relation, namely, "distance from the center," and asserting that these two relations "size of chord" and "distance from center" belong together. *The problem is this demand for the establishment of a relation between an initial relation and a new relation "determined" by it.* And this seems to be essentially the logical character of any problem.

Instead of speaking of an initial relation it would be more correct to speak of a *system* of (one or more) initial relations which the problem states. For even in the example given we have not only the relation "a is greater than b," but also "a and b are chords in a circle," *i. e.,* straight lines in definite relation to a circle. These relations are explicitly stated or indicated; others are merely implied. Thus it is implied that the stated relations obtain in a "Euclidean plane," which expression is itself merely an indication of relations explicitly stated in the "postulates." And it is impossible to disregard these implied relations without completely changing the problem. The importance of these implied relations makes it imperative that somewhere they ought to be explicitly stated and that the reference to them be unequivocal. The logical tendency of the whole work in modern mathematics, and

the inspiration of so-called mathematical logic, is to make explicit the implicit assumptions. This is at bottom what is meant by the slogan, opposition to intuition.

Let us designate the system of relations explicitly or implicitly stated in a problem by R_P, and the relations introduced by the solution R_S, then we may write

$$R_S = F(R_P),$$

i. e., R_S is a function of R_P. We shall have to examine this functional relation between R_S and R_P in a later paper; here it is important to state at least one of its properties: it is not necessarily a one-one relation, *i. e.*, given a system R_P, a system R_S is not necessarily uniquely determined, even if the problem is "well determined." I call a problem "well determined" if of every system of relations it is determined whether it is a solution of the problem or not. Well-determined problems are, then, of two classes, which may be called (1) *uniquely determining problems,* or *problems with uniform solutions,* and (2) *multiply determining problems,* or *problems with multiform solutions.* In the first case, one and only one solution belongs to the problem; in the second, the problem has two or more solutions. And the important question arises: provided a problem is well determined, can it always be transformed into a uniquely determining problem? And what requirements must a uniquely determining problem satisfy?

The recognition that there are problems with multiform solutions is of very great importance, particularly as the naïve mind, owing to a lack of fertility, is inclined to believe that any problem presented, if it is well determined, must be uniquely determining; and, when one solution is found, holds this to be the *only* possible solution. The strength of our conviction of the truth of a solution is often inversely proportional to our ability to find other, differing solutions. This was true until recently of such problems as the establishment of a set of postulates of geometry, of algebra, or of principles of mechanics; and nothing seems more startling in the outcome of the work of intrepid mathematicians than the conviction that most problems of a fundamental nature are multiply determining.

Many problems are multiply determining only improperly; they can be transformed into problems with uniform solutions by slight modifications in the statement of the problem. But even in the case of proper multiply determining problems, a transformation of the problem into a uniquely determining problem is often possible and desirable. This can be done by the addition of limiting conditions, by a restriction of the range of the variables, etc. It is not possible, neither is it necessary, to enter here into a general discussion of the

methods by which this transformation can be effected. But it is important to state that all our problems have multiform solutions, or fall short even of the property of being well determined, unless the following two conditions are satisfied: (1) that the *type* of the solution is determined; (2) that the *critical ideal* of the type is defined. The "type" of a system of propositions, stating the logical properties of a system of logical entities, refers to the *form* as distinguished from the logical *content.* Thus the same content can be stated in distinct forms, such as "mere enumeration," or "deductive system form," etc.; it is these classes of forms which I here call "types"; and the solution of a problem may be required to be of the type of the deductive system form, or of the type of mere enumeration, etc. When a problem is stated in mathematics, the type is usually understood to be that of the deductive system form; but when a problem is stated in physics, the type would be doubtful, as differing types are in use there, were it not that the type required is ordinarily sufficiently indicated by the natural surroundings of our problems. Yet it may always be called a structural fault of a problem if the required type of the solution is left to these suggestions and implications.

From the type is to be distinguished the *critical ideal.* The type is merely the logical form; the critical ideal is the standard by which the logical value of a system is determined. It is necessary that the critical ideal of each type be defined. It is possible that this critical ideal is the same for different types, though it is not necessary that this should be so. For the type of the deductive system form, the critical ideal is now emerging, owing to the persistent work at the logical foundations of mathematics, and in my paper on "Critique of Cognition" I have exhibited a set of criteria defining this ideal. Different solutions of this problem are possible and must be judged by their own test, *i. e.,* they must be "self-critical." It may be possible to include in our set defining the critical ideal of the deductive system form criteria (such as "simplicity"), so that the number of possible solutions is reduced; and it may even be possible to transform the problem by this procedure into a uniquely determining problem. These remarks concerning the effect of the critical ideal on the solution of the particular problem of critique of cognition may serve to indicate the general effect of the definition of the critical ideal of a type on the solution of problems belonging to that type.

We conceived that underlying each proposition is a problem to which it belongs and of which it is the solution; and we saw that this "belonging" is not necessarily a one-one correspondence, in the sense that, given a problem, there may exist more than one solution.

The inverse of this is also true: given a proposition, it may be the solution of more than one problem. Whilst nothing prevents our starting from a proposition and seeking the problem, or problems, of which it is a possible solution, it is more important, and in better harmony with the historical development of science as well as with human nature, to start with *the problem as the primary,* and proceed from it to the propositions which are its solution. We introduce therewith a directional element whose importance will become apparent in later papers. From this point of view we consider a proposition as being a response, so to speak, to a problem; as living its logical life merely in so far as it is a solution; as being *"generated"* by a problem; and problems, on account of this call for definite propositions as their solutions, may be said to generate these propositions. The term "generating" would then merely express the logical demand for a solution, which we found to be one of the characteristics of the idea "problem." However, it seems convenient to restrict the use of the term "generating" problem somewhat arbitrarily, so as to avoid a mere pleonasm. In the sense specified above, *all* problems are "generating problems"; I shall, however, apply the term merely to a particular class of problems, which, as *"generating problems"* shall be distinguished from the rest, which I shall call *"special problems."* Let me elucidate what I mean by this distinction.

Problems cohere; they may be grouped and classified, in so far as their systems of initial relations contain common parts. The initial relations of a problem may be conceived as *conditions* which make the solution of the problem possible; for, as the solution will change if we change the initial relations, we can say that the *possibility* of the solution is conditioned by these initial relations. If, therefore, several problems contain, amongst their initial relations, a group which is common to all, they form a system whose possibility is conditioned by this common group of relations. This group may itself be conceived as a system of initial relations of a new problem; and we say then that the several problems are *special* problems of the more general problem.

In order to state this more clearly it will be convenient to introduce here the idea of *"realm of a problem."* We arrive at it as follows. A logical realm is determined by a *condition* (or system of conditions); and *vice versa,* to every condition (or system of conditions), belongs a realm in which the condition is *"satisfied"* (provided we include the *"zero realm"* for inconsistent conditions). Now, any proposition is here considered as the solution of a problem, and the initial relations of the problem as conditions; they deter-

mine a realm in which the initial relations "hold" (*i. e.*, in which the conditions are "satisfied"); in this realm, then, the proposition is a solution of the problem; *and if the problem is properly stated, the validity of its solution is restricted to the realm of the problem.* If now the realm of a problem P' is part of the realm of problem P, we will say that P' lies within the realm of P, that it belongs to the realm of P, that it is a special problem within the realm of P, or simply *a special problem of* P. If, in addition, the solution of P forms a system in the ordinary sense of the word (such as geometry, mechanics, etc.) we shall call P a *generating problem.* P is the problem which is conceived as "generating" the system; the system is a possible solution of its generating problem P; the "theorems" of the system are possible solutions of special problems within the realm of the generating problem of the system.

Systems are thus taken out of their self-contained isolation; they are not an arbitrary collection of propositions, which, like rocks in a cyclopic wall, form a system by mere conglomeration. Systems are possible solutions of generating problems, and it is the problem which furnishes the organic connection between the various propositions of the system.

It follows from our definition of a generating problem that its distinction from a special problem is not inherent, not absolute. That lies already in the accidental character of what is usually called a "system." Geometry forms a "system"; its problem is therefore called a "generating problem"; but we may also call the generating problem of geometry a special problem within the realm of the generating problem of mathematics. It is quite conceivable that there are special problems which can never be generating problems, and generating problems which can never become special problems; but ordinarily the distinction between special problems and generating problems is merely relative.

Let us apply some of the foregoing remarks to a special case. Suppose the generating problem of mechanics to be given in the form: "to deduce from the properties of material systems which are independent of time, their phenomena which occur in time and their properties which depend on time."[3] We are not concerned here with the question whether this correctly states the generating problem of mechanics, or not. But in this statement are contained important points which in certain respects anticipate the solution: (1) it conceives mechanics as dealing with "material systems"; (2) the initial relations of this particular system of mechanics are "their properties independent of time" ($=A$); (3) the required

[3] H. Hertz, "Principien der Mechanik."

relations which are to be deduced represent "their properties which depend on time" and "their phenomena which occur in time" $(=B)$.

But this means: (1) This statement of the generating problem of mechanics determines the realm of mechanics: it is restricted to "material systems"; any problem regarding the properties of material systems will form a special problem in the realm of this generating problem and therefore demand a solution which can be "deduced" from the initial set; and none but these. (2) It establishes a criterion for the distinction between the "fundamental" and the "derived" propositions; this lies in their relation to "time." (3) It determines the type of the solution: B is to be "deduced" from A; the solution shall therefore be in the deductive system form.

The critical ideal is not stated in the generating problem, and need not be; it assumes that the critical ideal of the type has already been defined. Toward the solution of this urgent problem Hertz himself made an important contribution.[4]

What the "principles" $(=A)$ are in detail is not stated in the generating problem and need not be stated in the problem itself; neither does it state which "fundamental concepts" will be necessary, excepting that "time," "material system," etc., will either be among them or definable in terms of them.

In a similar way any statement of a generating problem anticipates certain aspects of its solution. But which aspects are anticipated can not be stated in general, not even for a special system such as mechanics; for its generating problem can be stated in many different and still essentially equivalent ways.

The preceding discussion of the meaning and implications of the concept "problem" has anticipated some of the *functions* of this concept. I shall, in what follows, discuss these mainly so far as they pertain to generating problems, though, after what has been said regarding the relativity of the distinction between generating problems and special problems, what applies to generating problems applies with certain natural modifications to special problems also.

Generating problems are the logical origin of systems. *Socrates* urged the methodological importance of "questions," using the τὶ ἐστὶ as the instrument for obtaining *definitions; Plato* recognized the ταυμάζειν as the starting-point of all philosophizing; *modern philosophers* emphasize the "purpose" which directs our thinking: they all have in mind the *subject-relation* to which the logical entity "problem" more or less closely corresponds. Not so easily recognizable but deeply permeating his whole system is the rôle of the

[4] *Einleitung* to his "Mechanik."

"problem" in *Kant's* philosophy. Some aspects of it, such as the designation of the "object" as an "*x*," I shall discuss at some other opportunity; but the problem-character of the "ideas" will come readily to mind; their "regulative" use, as distinct from the "constitutive" use, of the "categories" is a very characteristic function of problems. At closer inspection it will be seen that even the "transcendental method" should lead to the generating problem. In Kant's system its fulcrum is the existence of mathematics and Newton's mechanics. If they had indeed the property of "self-evidence" and consequent "undeniability" which then they were believed to possess, Kant's transcendental method would proceed without inherent difficulties. But if *different* sets of postulates can be, and have been, exhibited for mathematics as well as for mechanics, we can not arrive at a system of categories and principles ("*Grundsätze*") by asking: which are the necessary presuppositions of "experience," unless we assert dogmatically that these categories and principles remain *invariant* in the different selections of postulates; for which we have, at present at least, no warrant, and which Kant did not and could not have had in mind when he presented his transcendental method. In the concept "problem" Kant's method finds its real fulcrum; we do not start with the accomplished "fact" of Newton's mechanics to find its necessary presuppositions, but with the *problem* of mechanics, of which Newton's system is one of an indefinite number of possible solutions. Problems generate systems; *and the "postulates" of a system are the initial relations, are the conditions which make the solution of the problem possible.*

The generating problem is the selective principle which determines the kind of propositions which may be admitted to the set of postulates, and excludes others as by no possibility admissible to the set, in that they do not contribute to the possibility of a solution of the generating problem. The postulates are, therefore, not "arbitrary," or "mere conventions": they are *necessary,* namely, for the solution of their generating problem. Other sets might be chosen, but some must be chosen if a solution of the generating problem is to be accomplished. All possible sets of propositions are therefore grouped into two classes with respect to a generating problem: those that are possible initial relations of the given problem, and those that are not.

The generating problem determines what is "given" for the particular system which is its solution. "Givenness" is never an absolute property of certain propositions, concepts, attributes, relations, or what not. What is "given" in the realm of one generating

problem may be not-given in the realm of another. When I develop a system of geometry from a set of postulates, the postulates are the "given," the "theorems" are not-given; they are to be "found," or "proved." But if I state the problem: "to determine a set of postulates from which Euclidean plane geometry may be deduced," the system of propositions which compose what is called "Euclidean plane geometry," or a certain set of postulates which *defines* Euclidean plane geometry, is the "given"; the new set of postulates is the required solution, *i. e.,* not-given. It is a common prejudice of those who have given little attention to these questions of structure, and who ignore the rôle of the concept "problem," to take it that "sensations" are the "given *per se.*" This is incorrect. Sensations may be the given, namely, in the realm of a certain generating problem; in others they are not.

The generating problem determines what is "essential." How much confusion has resulted from the endeavor to establish certain propositions, or qualities, as "essential *per se*"! Our whole system of "virtues" has been obscured by this attempt. What is "essential" to a system is determined by its generating problem; it is either one of its "defining" properties (initial relations), or a "necessary consequence" from these. But the "same" system (*e. g.,* "man") has very different "essential" properties, according to the particular generating problem.

The generating problem determines the realm of the system. This is perhaps its most striking function, though its full importance does not appear until we come to critique of cognition. I can mention here only that the "truth" of a proposition does not attach to the proposition as such, in isolation as it were, but only in so far as it is part of a system, *i. e.,* relative to a definite generating problem. And the "truth" of a proposition does not extend indefinitely far, but only as far as the realm of the generating problem extends. To put this into language familiar to students of the history of philosophy: *Kant's* main undertaking in his "Critique of Pure Reason" was to demonstrate that the "truth" of the principle of causality does not prohibit the "truth" of the principle of freedom, in that the realm of the principle of freedom lies wholly outside the realm in which the principle of causality is valid. Causality is restricted to "experience"; freedom lies outside of "experience." But "experience" designates here merely a generating problem, and what Kant tried to establish is that the generating problem of "experience" is distinct from the generating problem of "ethics." The term "things in themselves," the distinction between "ideas" and "categories," between "regulative principles" and "constitutive principles," are merely details of Kant's special solution of the

problem of separating these two generating problems. Kant has indeed sufficiently indicated the rôle of the concept "problem" in his undertaking; but it is obscured by the psychological turn which he gave his solution.

But if the "truth" of a proposition is thus restricted to the realm of its generating problem, *the separation of generating problems becomes of the utmost importance;* and my own tentative procedure in the beginning finds here its structural justification. It may be opportune to call attention here to a procedure in mathematics which is in harmony with this requirement of the separation of generating problems. It is usual, in mathematics, to state propositions with conditions which definitely restrict their validity; *i. e.,* mathematicians take at first a rather narrow but well-defined realm (or, to put it differently, they limit their generating problems) in which propositions are established. Now it *may* happen that the validity of a proposition extends beyond the realm of the generating problem in which it is proved; the mathematician will then proceed to *"extend"* the realm by special methods; *but in no case can the validity of a proposition be taken for granted in the extended realm until it has been established for the extended realm.* This "method of limitation and extension," as it might be called, has proved of the greatest power in mathematics; without it the present rigor of mathematics would have been unattainable; and it is the main cause of the orderly progress in the development of mathematics which struck Kant so forcibly, the real "royal road" which he tried to find for philosophy.

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REVIEWS AND ABSTRACTS OF LITERATURE

Münchener Philosophische Abhandlungen. Theodor Lipps zu seinem Sechzigsten Geburtstag gewidmet von früheren Schulern. Leipzig: Johann Ambrosius Barth. 1912. Pp. iv + 316.

The book consists of ten essays, no two of which are upon the same subject. Philosophy, logic, epistemology, ethics, and psychology are represented, and it is quite impossible to review the book as a whole. A type of mind such as that of Lipps can not help influencing greatly many pupils. This is clearly seen in some of the essays. Others of the papers have followed the doctrines of Husserl. The book will, therefore, be of special interest to those who wish to trace the range of the Lippsian influence, even if the merits of the essays did not warrant their being read. With this in mind, the reviewer decided to present a summary of all the

essays, instead of a criticism of a few important points of the best of them.

Neukantianismus und Hegelianismus. E. v. ASTER. This paper aims to show certain similarities that exist between the development of Kant's ideas, as found in the writings of Hegel, and as found in those of the Neo-Kantians, especially in those of P. Natorp.

After a short account of the fundamental ideas of Kant, the paper proceeds to show that Fichte and Hegel found Kant not sufficiently radical. He is inconsequent in his assumption of the "*Ding an Sich.*" One must not go beyond the process of knowledge for the object of knowledge. Thought and being are identical. Thought is, therefore, a productive and not a reflective function, and the categories become ideas (*Ideen*). Furthermore, all concepts that are concerned with reality must be deduced from the concept of knowledge itself in order to be objectively valid. Kant's world is a finished system that must be analyzed into its parts. Hegel's world progresses step by step, by deduction from the first concept, that of "being," to a complete system. Kant's static system is changed to a number of connected processes. Natorp also finds that Kant assumes a something given before knowledge. The categories are deduced from the forms of judgment. What about the forms of judgment themselves? And time and space? These must be finished concepts before the synthesis of the pure experience, according to Kant's system. This criticism of Natorp's is in line with that of Hegel's. v. Aster here remarks that Kant assumes perceptions, but not "objects," to be given before the act of knowing. For Natorp, being as such becomes an ideal concept, a goal of the unfinishable process of knowing.

With Natorp as with Hegel, time and space lose their subjective characters. They and the categories must be deduced. Not from facts, but from the "*Fieri*" of thought itself, must the fundamental concepts be produced; the object of knowledge is the "one" which contains a manifold, the "one" which is identical with itself, and which contains that which differs from itself.

Natorp differs from Hegel principally in three points. First, the summit of Hegel's deduction is the absolute being. For this reason, Natorp discards Hegel's philosophy as metaphysics, that is, a seeking of the solution of the problem of knowledge outside of the identity of the method itself. Secondly, Hegel includes ethics and esthetics in his dialectic processes. Natorp makes ethical values and esthetics coordinate with scientific thought, and here he is nearer Kant. Thirdly, Hegel places history at the head of the hierarchy of the sciences. Natorp, mathematics and physics. This difference is reflected throughout the two systems, especially in the deduction of time and space. Hegel's deduction is from space to time (history being the goal); Natorp's, from time to space.

Die Frage nach dem Grunde des sittlichen Sollens. A. BRUNSWIG. The theme of this essay is summed up in the question, "Why must I act morally?" This may be divided into five separate questions. First, how far is the moral action the ideal action (ideal)? Secondly, what proof is

there that it is one's duty to act morally (real)? Thirdly, what practical reason is there for one to do one's duty (practical)? Fourthly, what is the ultimate cause from which this duty can be deduced? Fifthly, what ultimate purpose has moral action?

That the moral action is the ideal action is deduced from the definition, *a priori* and analytically. The answer to the second question may be summed up thus. The spur of duty to moral action is not a psychological fact, but a reality given us by experience and influencing our will. Its nature the author can not further define in this place. The paper ends here, there not being sufficient room for answers to the other questions.

Uber Wahrnehmung und Vorstellung. TH. CONRAD. When we speak of imagination and perception, we do not view these processes separately, isolated by so-called psychological analysis, but consider them rather in relation to entire experience, and only compare the one with the other in order to discover the essential characteristics of each. The author can not agree that there is no essential, but merely a moral and relative difference, a difference of intensity, clearness, and constancy between the two. He doubts if psychology ever would confuse imagination with perception (the author is evidently unacquainted with Perky's work on this subject), and insists further that evidence of the existence of borderland experiences can not be used as an argument against specific differences.

Characteristic for the perception is that that which is perceived is *itself* before one. The tower that I perceive is there in front of me. The tower I imagine is, in a sense, before me, but is not *itself* there. Included in this negative characteristic of imagination is the positive one that the object is present. This is a seeming paradox. The statement means, however, that the object is not represented by a picture of itself, but that the object itself is active in the image. This is not the same as the presence of the object *itself* as characteristic of the perception. The image could not exist without this presence of an object. In the case of feeling, for example, although there is a relation to the object, the object is not an integral part of the feeling. In perception, the object appears as a reality independent in the sense that we can not acquire it and cause it to disappear. We can say that in the perception not only is the object there, but there is something *itself* there. On the other hand, there is not given in a perception any direct evidence of the existence of the object, although the perception differs from the imagination in that it can give information of the existence of the object, while the imagination can give neither positive nor negative data on this subject. Imagination is not coordinate with perception. It has a secondary position in that there is no specific aspect in which the object appears in imagination, but rather the object appears in imagination in a perceptual aspect. In this respect imagination is dependent upon perception, that is, the object appears in imagination in that aspect in which it would appear in a possible perception. This dependence of the imagination, namely, its representing its object in an aspect borrowed from the perception, becomes a positive independent characteristic of the imagination. The dependence of imagination

on perception is not in the sense of a real relation in time, as empirical psychology teaches. The author's deduction that the imagination represents the object in the perceptual aspect, because it is its nature thus to represent the object, is a vicious circle. The paper is a strange confusion of psychology and epistemology.

Zur Entwicklung der Raumanschauung bei Mensch und Tier. M. ETTLINGER. Starting from the rule that our space perception has developed through experience, but that this development is a phylogenetic and not an ontogenetic one, Ettlinger attempts to discover how far back we can trace this development in the animal kingdom. He adopts, with slight change, Hesse's six steps: first, vague perception of direction; secondly, perception of direction with distinct goal; thirdly, movement; fourthly, distance; fifthly, form; sixthly, color. In the first group, he places the earthworm, with its universal organ, that creeps out of its hole when it is dark and in again when it is light. The second step demands a specific organ of vision which admits light only from one direction. Such a function is found in the flask-shaped cells. The third step requires a number of eyes close together, so that the successive excitation may be continuous. For perception of distance we find either two eyes, one for near and one for far objects, or these two functions combined in one eye. In the latter case, different parts of the retina may be at different distances from the lens or the distance may be varied between lens and retina or, finally, the degree of refraction of the lens may change. The fifth and sixth changes require more complicated organs and functional development. Kinesthetic sensations, especially, play an important rôle.

Now Ettlinger believes that the ontological development of vision runs parallel to this. Reaction to light without perception of direction appears in new-born children. Preyer noticed a perception of direction at the eleventh day, ability to follow a moving light at the twenty-third day. Distance vision development, according to Stearns, appeared at the end of the first half-year with the help, not only of convergence and accommodation, but also of kinesthetic sensations. Then follows form perception as developed by kinesthetic sensations. From the total of these phylogenetic and ontogenetic facts, it is seen that local sign can not be reduced to fixation movements, in Lotze's sense, or to qualitative differences, as Wundt and Lipps would have it. For an explanation of local sign, we must turn both to the experiences in the development of the race and to the sensations of the individual,—those of movements of the body and head, of balance and of the other sense-organs especially concerned with localization.

Asthetik und Kunstwissenschaft. A. FISCHER. This article contains many interesting observations, some of which seem hardly related to the general thesis which is as follows: An analysis of the relation of esthetics to the science of art will be most helpful in defining the concepts of these two disciplines. The science of art is engaged in the problems of the his-

tory, theory, and methods of art. As to the first problem, it is generally conceded to-day that esthetics is not the history of art. The historian asks when, why, by whom, and for what purpose. These questions do not concern esthetics. In regard to the theory of art, two questions may be asked. First, is esthetics nothing but the science of the nature, origin, cause, effect, and purpose of art? Secondly, are all questions of a complete theory of art questions of esthetics? These questions Fischer answers in the negative. One must remember that we have an esthetics of nature. Nature does not fall under the products of art. In this connection it is emphasized that esthetics is not a psychology of the feelings aroused by an object, but that it has an independent meaning and that it constantly seeks its own peculiar objectivity. This is indicated in the fact that the traditional esthetics is called modifications of the beautiful. On the other hand, the theory of art is interested in psychological, sociological, and philosophical questions, all of which are foreign to esthetics. Esthetics and theory of art agree in that they both treat of the nature of art, namely, of the nature of the beautiful. It may seem, at first glance, as if esthetics should thus be identified with the history of art, for it is assumed by some that the beautiful may be discovered through the process of induction, namely, by a comparison of all known works and a selection of the common characteristics, and in calling that beautiful which is at the present day considered a work of art. The beautiful, however, can not be defined by such methods.

Finally, as to the problem of the method of art. This is to some extent a problem of esthetics also, but not the only problem. The two concepts are thus seen to overlap, but they are not identical.

Das Bewubtsein von Gefühlen. M. GEIGER. Geiger's paper is concerned with the question as to whether feelings are represented in their full strength in different ways. He considers unpleasant and pleasant feelings, emotions, and the so-called sensation-feelings, experiences such as doubt, displeasure, and, finally, envy, pride, etc. He thinks that differences in theories, such as between those of Meumann and Titchener, may be overcome by careful study of the several functions involved. Characteristic of all these feelings is that they are not objects (*Gegenstände*) of consciousness. It does not follow that they may not be objects of attention. The answer to the question whether feelings can be observed, must be preceded by a description of the different functions of attention.

There are three different ways in which attention functions: first, it grasps the object as a whole; secondly, it observes the qualities of the object; thirdly, it analyzes the object in the light of these qualities.

It is only in the first manner that attention can be directed toward all feelings. In the second manner, it includes all but emotions, but no sort of feeling whatsoever can fall under attention in its third form. These three distinctions in the functioning of attention are not clear, but they suggest degrees of vividness rather than modes of functioning.

It is difficult to follow the author in his description of the different attitudes. When one observes a landscape, one may be concentrated upon the object before him or one may be lost in the mood aroused by the land-

scape. In the latter case, one's attention is directed toward the feeling, yet one does not observe the feeling (*"bin ich auf mein Gefühl eingestellt, ohne doch das Gefühl zu beachten"*). In another place we find that sorrow as feeling is distinctly different from the somber atmosphere which envelops the object. Again, he says that that which is attended to seems to be signaled out from the rest of experience by a beam of consciousness (*Bewusstseinsstrahl*).

There are three different attitudes towards feeling,—an outer concentration in which the feeling is experienced with the object and two forms of inner concentration. In the one form, one is immersed in the feeling. In the other, one recognizes his relation to the feeling, as, for example, in a certain sentimental enjoyment of a poem. It is only in reference to the first attitude that we can speak of observing a feeling. It is only here that we have the play of the beam of consciousness. In the other two we are simply conscious of the feelings being there without observing them, so that here attention plays no rôle. This concept of attention is a more restricted one than one would expect from the author after having read his extremely minute description of the different aspects of feelings. It is indeed a wonder that he, of all men, should have narrowed its sphere of activity so decidedly.

Motive und Motivation. A. PFÄNDER. The author in his analysis of the act of the will (will-act), which he carefully separates from that which follows the act, gives us a description of the soul, its different parts and its relation to the object, which reminds one more of a mystical philosophy than of an empirical psychology. Indeed one often feels, in reading the works of many of these pupils of Lipps's, that one has to do rather with poets than scientists. It is difficult to conceive of a soul body as distinct from a soul spirit or of a soul light which illuminates our perception. And even the strongest advocates of imageless thought will hardly follow Pfänder in his minute analysis of the will-act.

Striving is first defined, then will-act. Striving is both centrifugal,—that is, a motion from the soul center to the object—and centripedal, from the object to the soul. Besides these two relations, there is the striving *per se,* which is blind as to its goal. The will-act is always central, thus differing from this centrifugal relation of striving, and, as central, it is not only subject and origin, but also author of the act. It is not phenomenally a process caused by something from without, but a fundamental act of the ego center, nor is the will act a judgment. It is neither a positive nor a negative judgment upon being, value, or interest. The will-act is a self-determining act, subject as well as object of the act. That will differs from striving is shown by the fact that the will may be positively directed toward an object that arouses a negative striving in the ego. An example of an act of will may suffice to show the nature of this paper. A man enters a room, perceives that it is cold, and leaves the room. The cold acted centripedally upon the ego. The ego center not only attended to and apperceived the cold, but also turned to it with a spiritual attention. The judgment of the cold was recognized and appreciated. To this

was added a practical appreciation. Finally, the ego did not allow this judgment to remain without, but permitted it to enter, embodied it within itself, supported itself upon it. This supporting of the ego upon something is a peculiar spiritual act, a linking of logical cause and act, and completes the action.

Zur Theorie des negativen Urteils. A. REINACH. In this clear and comprehensive paper upon the negative judgment, Reinach begins with the necessity of the separation of the conviction (*Uberzeugung*) from the assertion (*Behauptung*) in a judgment. There can be different degrees of conviction, that is, different degrees of certainty. On the other hand, we can not speak of degrees of assertion. No assertion is possible without a conviction, but the reverse is not necessarily true. As to the manner in which these two forms are related to the object judged, the object may be perceived or may merely be referred to. In the perception, we probably must always have imagery, but we can have imageless content accompanying the imagery such as in the perception of a book which lies on the table. *"Die Rückseite des Buches z. B. ist mir in keiner Weise anschaulich gegeben, weder nehme ich sie wahr, noch pflege ich normaler Weise aus der Erinnerung oder Phantasie anschauliche Repräsentation zu schöpfen."* Now conviction is aroused by perception. Assertion, on the other hand, is related to the object by reference, which reference is represented by imageless content.

Reinach then turns to a description of judgment-content (*sachverhalt*) as distinguished from the object. It is the content that stands in relation to logical cause and effect, that may be possible or not, and not the object. Further, and this brings us to the main theme, we can have positive and negative content. It is the contents that stand in contradictory opposition to one another, not the objects, and it is the content that is judged and asserted. Thus, we can have negative and positive content and these contents may be merely recognized. This recognition is fundamentally different from a conviction or assertion and consequently must be separated sharply from a judgment, which is the name for the last-mentioned act.

There can be a positive conviction of a positive or negative content. This presupposes a positive self-evidence (*evidenz*). There can be a negative conviction of a positive or negative content. This presupposes a negative self-evidence. Positive self-evidence of a negative content presupposes a positive self-evidence of a positive content necessarily connected with the negative content. Finally, the negative self-evidence of a positive or negative content presupposes a positive self-evidence of an opposite positive content which, in the case of a negative self-evidence of a negative content, is in contradictory opposition.

Every assertion is dependent upon a conviction. This conviction must always be positive.

Then follows an analysis of the meaning of the word "not" which is preceded by a treatment of "and." Both "not" and "and" express functions. The function is to bring together, irrespective of the objective

possibility of such a union. It is not an apperceptive union, and only occurs in the sphere of reference, in which sphere objects are never perceived. The function of the "not" is to negate the "is," thus forming a negative content. These functions are not as such represented in consciousness during conversation, but we can at any time bring them to consciousness.

It is not the negative which is the essential of a negative judgment, but rather the assertion, and the difference between the negative and positive judgment is solely that, in the one case, the evidence is directed towards a negative, and, in the other, towards a positive content. In answer to the question whether the negative is subjective or objective, Reinach replies that positive and negative judgments depend upon contents which may be positive or negative and which may or may not exist, but when they do their existence is independent of consciousness.

Existenz als Gegenstandsbestimmtheit. O. SELZ. After describing the classical arguments against existence (*Dasein*) being included in the characteristics of an object, the author says that there are three determinations present in every phenomenon: first, existence; secondly, the qualitative determination (*Wiebestimmtheit*); and thirdly, the characteristic of being present (*Gegebensein*). The last determination means that the phenomenon is a state of the ego and in that sense present. Every phenomenon as such must have that characteristic. The qualitative determinations are the qualities of the object, the concept, and thus are always general. These two determinations do not, however, exhaust all of the object as presented to consciousness. In some cases, we must add its existence. It is this characteristic which is found in all individual objects and differentiates them from general objects. It is the *principium individuationis.* We can say that for this reason the Platonic idea can not exist. As to the argument that time and place are the individualizing conditions, one can answer that time and place presuppose an individual object.

Further, this existence-determination can be obtained by the process of abstraction just as the qualitative determination can. As all individual objects are existing objects, the concept of an individual object must contain the existence-determination. This existence can not be placed as coordinate with possibility and necessity, as Kant stated, for we can have a possibility or necessity of an existence. We can also say that in products of imagination such as Centaur, the existence-determination can be imagined as well as the qualitative determination. It need not be, however. In case Centaur is judged as existing, the act is directed toward the object itself as present. In the case of imagining existence, the act is merely directed towards this determination of the object. The difference, therefore, between judging and imagining existence is one of content and not of act. Finally, the existence of transcendent things is an existence in the same sense as the existence of phenomena. The manner of being, however, is different.

Über die Bedeutung Freuds für die Psychologie. E. VOIGTLÄNDER. The author sketches briefly the theories of Freud, but adds little to the rapidly increasing literature on the subject. She warns against losing sight of the main principles in the criticism of minor details. Voigtländer thinks that Freud neglects the inherited characteristics as an explanation of certain phenomena such as those commonly termed natural antipathies.

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Friedrich Paulsen's philosophischer Standpunkt, insbesondere sein Verhältniss zu Fechner und Schopenhauer. Abhandlungen zur Philosophie und ihrer Geschichte. PAUL FRITSCH. Leipzig: Quelle und Meyer. 1910. Pp. 43.

This little account of the late Friedrich Paulsen's philosophy is excellent, the very best I know. Paulsen's method, his theory of knowledge, his panpsychism and voluntarism, and his philosophy of religion in its ethical aspect are expounded with extraordinary clearness. The relations to Schopenhauer and to Fechner, especially to the latter, are brought forth admirably. Paulsen's system of philosophy—this is the impression the little booklet makes upon the reader—is typical of the general attitude of German philosophers at the end of the nineteenth century.

GÜNTHER JACOBY.

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JOURNALS AND NEW BOOKS

ARCHIVES INTERNATIONALES DE NEUROLOGIE. August, 1912. *La chirurgie des aliénés* (pp. 69–89): W. BECHTEREW ET POUSSÈPE. – The operation of trephining has been performed in many cases of psychosis and has given the best results in cases of local lesions. *Les Psychoses dans l'histoire* (pp. 89–110): A. CULLERRE. Reformers, regicides, anarchists, revolutionists, represent different types of psychical disorders. *De l'Autonomie médicale dans les asiles d'aliénés* (pp. 110–116): A. M. – A project of reform in the medical administration of insane asylums. *Revue des sociétés. Analyses bibliographiques.*

Babbitt, Irving. The Masters of French Criticism. Boston: Houghton Mifflin Company. 1912. Pp. xii + 427. $2.50.

Hart, Bernard. The Psychology of Insanity. New York: G. P. Putnam's Sons. 1912. Pp. ix + 176. $0.40.

Hildebrandt, Kurt. Platons Gastmahl. Leipzig: Verlag von Felix Meiner. 1912. Pp. 128. M. 2.

Huxley, Julian S. The Individual in the Animal Kingdom. New York: G. P. Putnam's Sons. 1912. Pp. xi + 167. $0.40.

NOTES AND NEWS

"At a meeting of the Aristotelian Society on January 6, a paper was read by Professor Frank Granger on 'Intuitional Thinking.' The return to Reid's theory that we have a direct apprehension of external objects involves the reconsideration of intuitional thinking generally. But the theory of Reid is really to be traced back as far as Aristotle. Following Aristotle, it is convenient to consider sensible intuition before we go on to rational intuition. The union of different attributes in the perception of the object of sense may be illustrated by the analogy of the stereoscope, which combines two or more pictures into one. This analogy may also help us to understand the fusion of some of the elements of a concept. But the intuition of the real under the fixed form of the concept is impossible because the fiction of an instantaneous present is necessary for certain processes of conceptual thought. But no process of thought can be reduced to a succession of instants. Hence we must hold that an intuition of reality involves three aspects: backward looking, present, and forward looking. But these three aspects are united in one "stereoscopic" picture of events. Thus there is no need to go beyond rational intuition for our knowledge of reality as a continuous series of changes. But inasmuch as we can only apprehend a few out of all the series of events at the same time, the concept is necessary to fill out the serial order of our intuitions. In this way it is possible to combine the vividness of intuition with the comprehensiveness of a systematic view of things. Professor Dawes Hicks, Professor Brough, and Messrs. Benecke, Shelton, and Worsley spoke in the discussion, and Professor Granger replied."—*Athenæum.*

Privat docent Karl Bornhausen has undertaken the task of establishing a library of American theology in Marburg, Prussia. The enterprise is under the care of the Prussian Ministry of Public Worship and Education which appropriates a fixed sum yearly for the running expenses. Mr. Bornhausen's aim is to make accessible in one place the most important periodicals, dealing with the American religious situation, and the standard works of American writers on theology and religion from Edwards to the present day. Particular attention will be paid at first to collecting representative works on the philosophy and psychology of religion and systematic theology. Donations of money, books, and periodicals would be of great service to Mr. Bornhausen in carrying out this important undertaking. The Smithsonian Institute will forward free of charge packages addressed to Die Theologische Amerika-Bibliothek, Lic Karl Bornhausen, Marburg in Prussia, c/o The Smithsonian Institute, Bureau of International Exchange, Washington, D. C.

Dr. W. S. Hunter, of the University of Chicago, has been appointed instructor in psychology in the University of Texas. Dr. F. A. C. Perrier, also of the University of Chicago, has been appointed to an instructorship in psychology in the University of Pittsburgh.